

Native Planting 101

Presented by Plants for Ecology

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Objectives of the Seminar

- Review Educational Sources
- Review of tools for each stage
- Tools for the job
- The four stages
 - Planning
 - Prep
 - Planting
 - Maintenance

Educational Sources

- Bringing Nature Home by Douglas Tallamy
- How to Love a Forest by Ethan Tapper
- Invasive Plants of the Upper Midwest by Elizabeth Czarapata
- www.plantsforecology.com/
- www.michiganflora.net (Taxon search)
 - Look up *Monarda punctata*
- www.illinoiswildflower.info
- www.wildflower.org
- **Picture This.** Identification App. Highly recommend.

Do your homework prior to diving into the socials to learn about gardening!

Native, Adventive, Invasive

- A native plant is any plant that has co-evolved with other species within a given area. Plants are the foundation of any ecosystem and these relationships have established over millions of years. These relational qualities bring diversity and resilience to any given eco-system.
- An adventive plant is the opposite of native. It has little to no established relationships within an ecosystem. 99.99% of the time the only relationships are with other non-native species.
- An invasive plant is a subset of adventive, but, in addition to having very weak relationships with other native species within an eco-system, it grows unchecked often taking over, disrupting and diminishing whole ecological systems.

Bird Poop or Swallowtail Caterpillars?

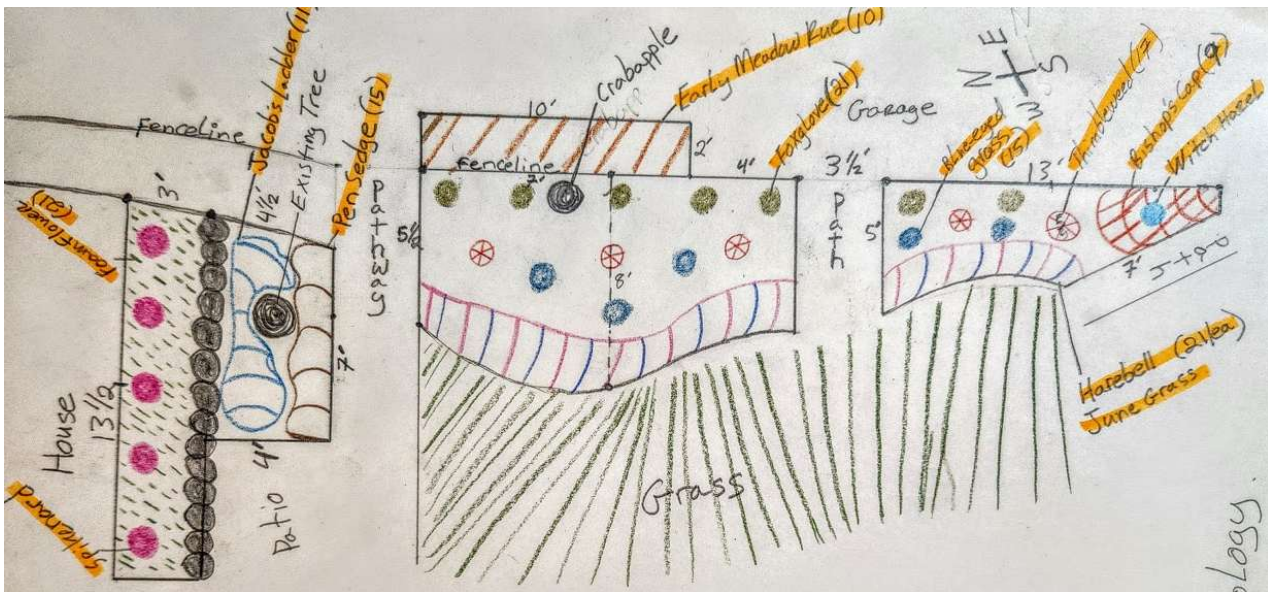
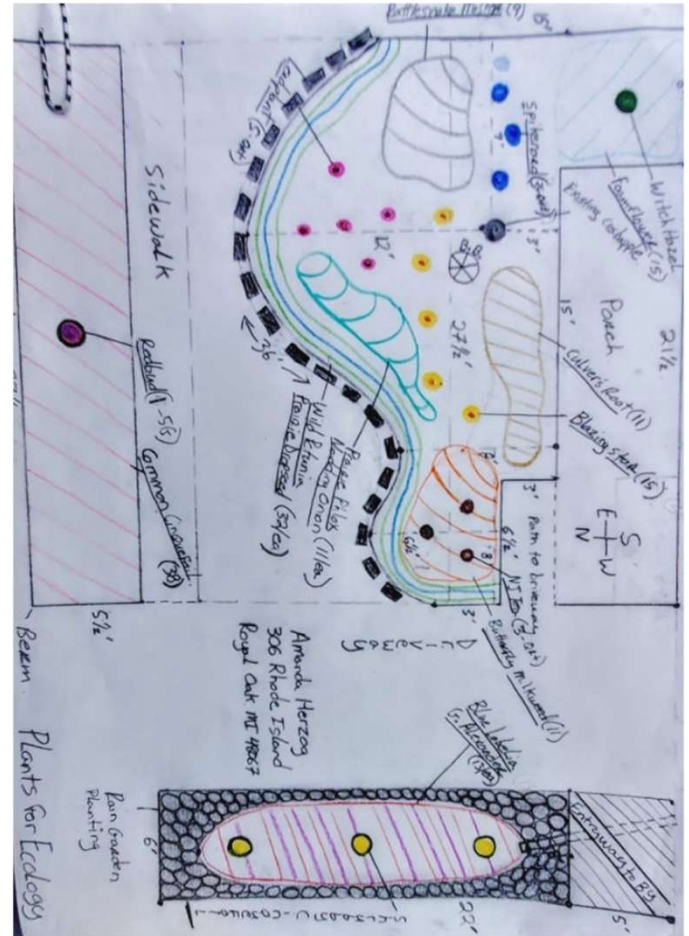
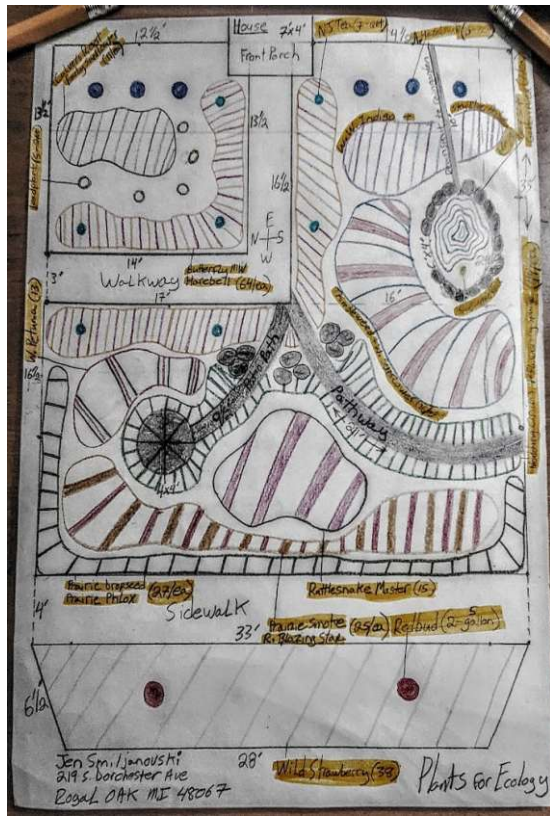
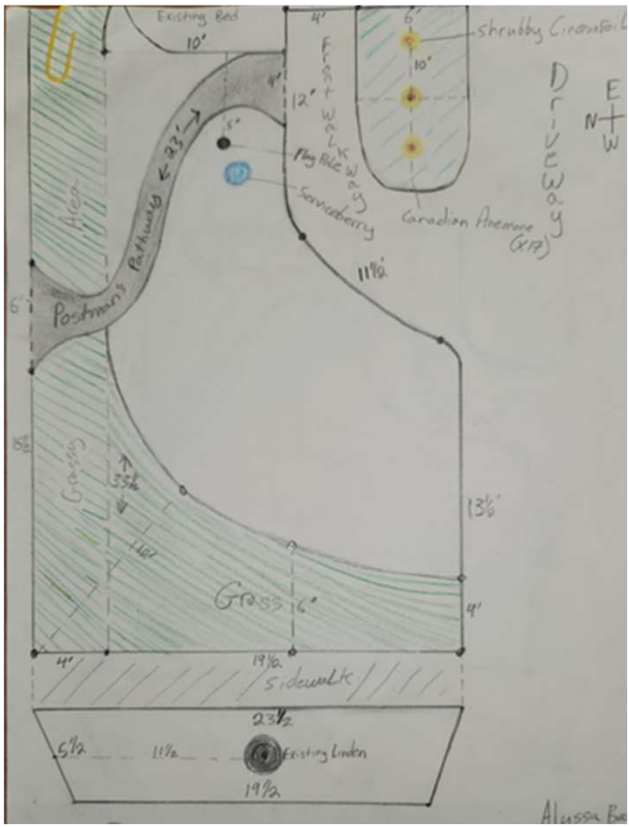


Stage 1: Have a Plan

- Educate yourself prior to the project.
- Know the dimensions and location of the space
- Know the conditions of the space:
 - Type of terrain, sun exposure, moisture, existing plant life (native, non-native and invasive), existing infrastructure (buildings, sewer lines, utilities, fences, roads, sidewalks...)
- Create a design that includes all aspects and locations in the landscape to be created.
- Create a spreadsheet of materials and plants along with their cost.

Tools for Creating a Plan

- Tape measure and measuring wheel
- Marking paint
- Scale ruler
- Black pencil and colored pencils or
- Design software
- MS Excell or similar.
- Plant ID app.
- Camera (phone) for pictures.



Stage 2: Preparation

Purpose of preparation

- *First, address any infrastructure repairs or removals that will impact the area to be landscaped.*
- Create the best planting medium possible
- Removal of invasive species
 - Any planting success is based in large part on the removal of problematic species.
- Minimal disruption of the seedbank.
 - The seedbank holds many weed seeds that can negatively affect a future planting.
- Improvement of the soil health
 - Adding organic materials to the soil
 - Remediate soil compaction

Tools for Preparing the Site

- Chainsaw (Battery)
- Hedger (Battery)
- Reciprocating saw (Battery)
- Hand tools:
 - Shovel, spade, rakes, pitchfork, large flat shovel, utility knife, hand saw, small and large pruners, rubber mallet...
- Pump sprayer (for herbicide application)
- Dye for use with herbicide
- Long hose w/ nozzle attachment
- Large Capacity wheelbarrow
- Gloves and safety glasses.
- Measuring device.
- Marking spray paint

The Process

1. Mark out the perimeter of the planting area
2. Remove all woody species as flush as possible. Lightly rooted species can be dug out.
3. Remove all debris
4. If not utilizing herbicide, mow down all non-woody vegetation flush to the ground.

-Paper and Mulch Layering-

- Lay down paper (use Trimaco x-Paper- 3'x100' rolls) in strips (make sure to overlap) and place mulch on top. Repeat until complete. Work from back to front. Any extra mulch can be distributed throughout.
- Space will be ready after about 5 months.

-Black Plastic Barrier-

- Same steps as 1-4 above. HD and Lowes sell this in sheets that are 10'x25'.
- Lay out plastic on the planting space. Secure with staples and weighted materials such is boulders and timbers.
- Optional: add a layer of mulch to hide the visual of the plastic. Not too much since the plastic will be removed.
- Space will be ready after about 5 months.
- Remove plastic and add a light mulch coating to the space- 1-1.5" deep. Space is ready for planting.

Equation for Mulch Amount

Square Footage x Desired Depth ÷ 324

Herbicide

- Use this option if you are dealing with invasive species that cannot be controlled otherwise.
- Glyphosate and Triclopyr are the most common agents and will work in the majority of situations.
- Determine if a foliar application or cut stump application will be needed.
- Wear protective clothing.
- Timing and type of herbicide required depends on the species being controlled.
- Controlling invasive species may require multiple treatments and can extend out multiple years.
- Once an area has been effectively cleared, add 1-1.5" of mulch. Wait 1-2 weeks from last application of herbicide to plant.

Types of Mulch

- Wood Chips or Arborist Chips- sourced directly from tree service.
- Shredded hardwood- mix of chipped wood and bark, mostly bark.
- Straw. Comes in bails. Majority of straw will have traces of Glyphosate since this product is widely use in US Ag.
- Leaves- These are the best if timing works out!

Pathways and Other Hardscape

- Pathways, sitting areas, retaining walls, borders, water features should all be added once the mulch has been put down.
- Heavy infrastructure should be done first. For example, if a patio is being incorporated into the landscape.

Post Preparation

- If using mulch and cardboard/paper, water occasionally to help settle mulch and speed the breakdown process
- Allow/add leaves to the space. This just adds more organic material to the space.



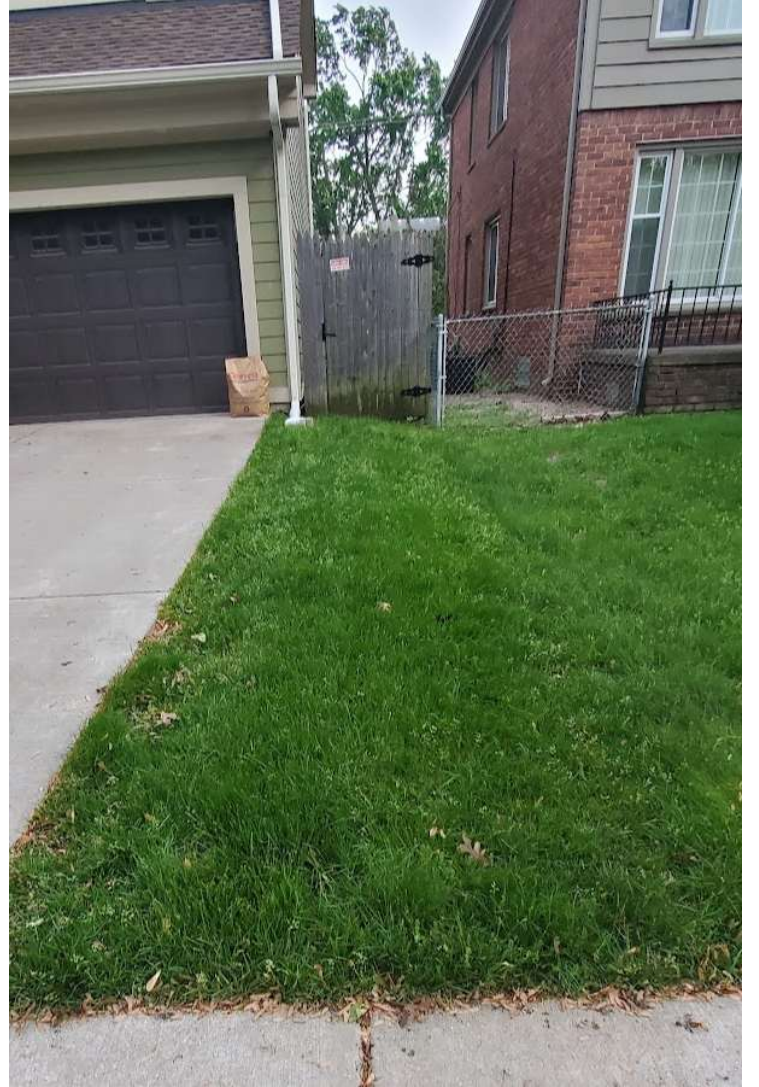
Mulch!



Paper Then Mulch









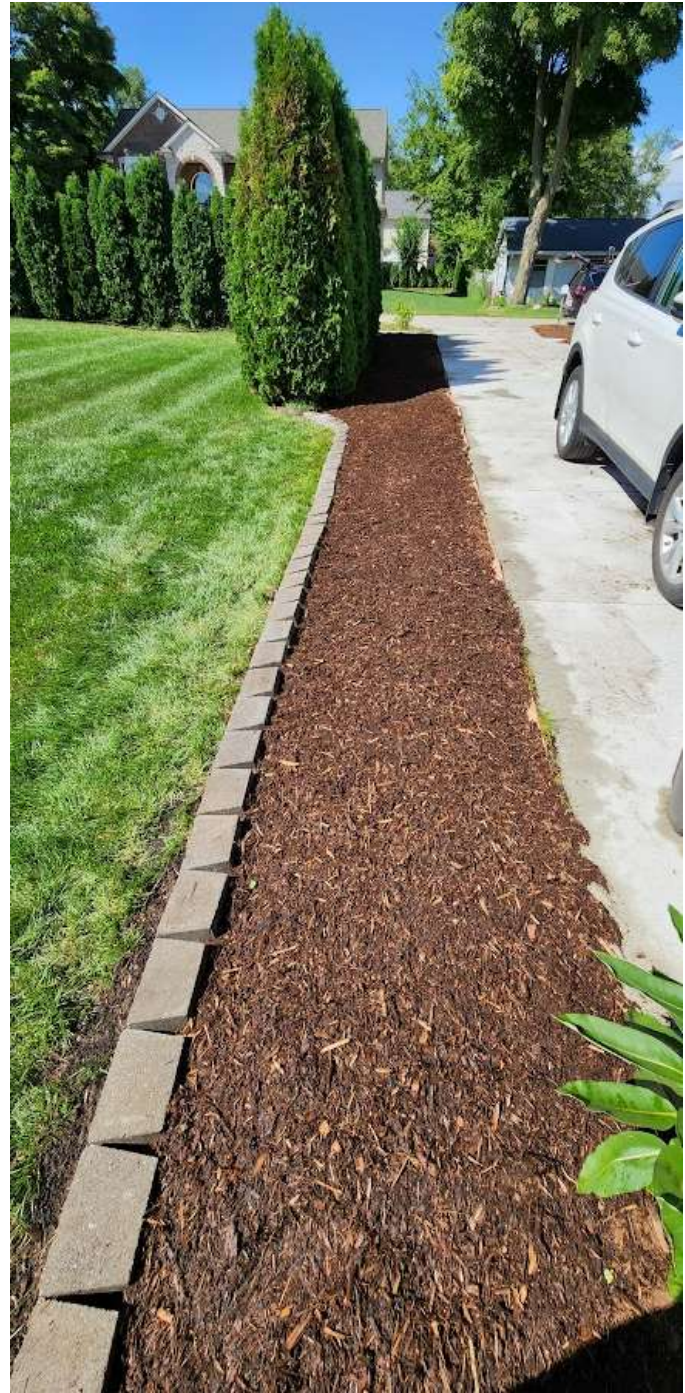
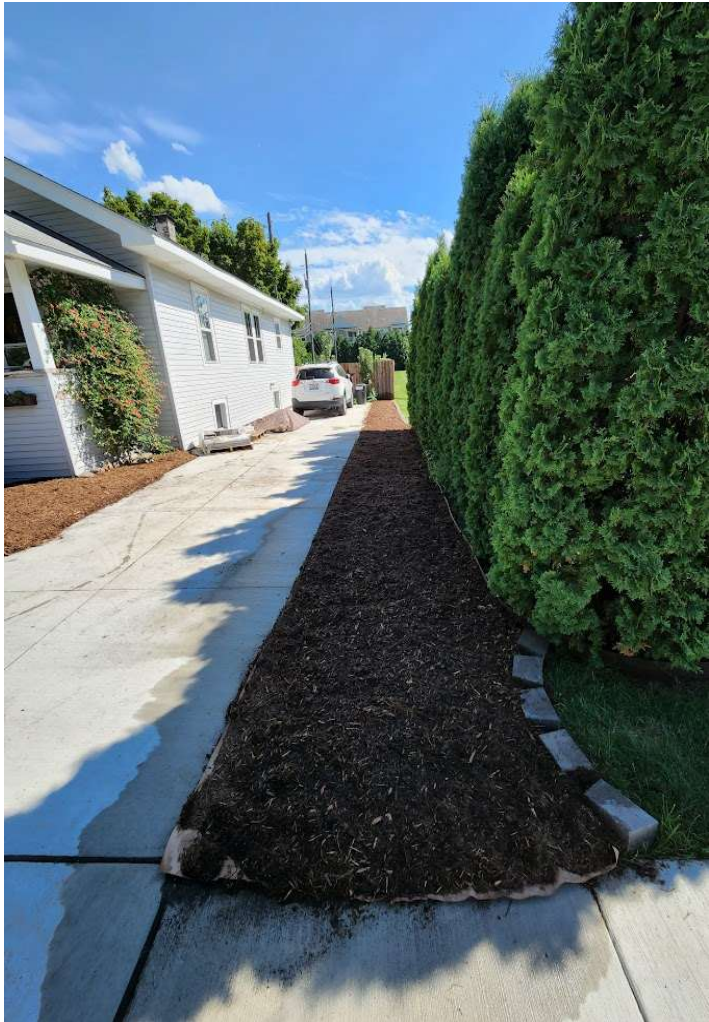














The Planting

-Sourcing Your Plants-

- I highly recommend getting species from growers who specialize in native plants
 - Wildtype, New Leaf Natives, Michiganese Natives, East Michigan Natives, Detroit Wildflower Nursery
Designs by Nature
 - For bareroot trees and shrubs use Alpha Nurseries or Cold Stream Farm
- Get your plants as close to the planting date as possible.

Tools

- Cordless drill with 1.5"-2" bulb auger attachment. There are some with longer shanks and wider blades to minimize kneeling and bending and or to dig larger holes. Effective with plug-qrt size plants.
- Trowel
- Shovel
- Large pruners
- Utility Knife
- Wheelbarrow
- Flexible rake
- Hose and watering can
- Measuring devices
- Marking paint
- 5 gallon bucket
- Gloves

Process of Planting

- Follow your plan but be aware that adjustments may be required. The plan is a guide not an absolute.
- Plant in a manner that minimizes how many times you need to move through the space.
- Work carefully and methodically.
- Keep potted plants in the shade until ready to plant.
- Plant trees and shrubs first. Cage anything that requires such protection before moving on to herbaceous species.
- Water thoroughly after planting. I also recommend watering plants in their containers prior to installing as this really helps them grow successfully.

Plants are meant to be eaten!!!!

Native Landscape Care and Expectations

- 1. Water: It is very important to diligently water a new planting. You want the area to be moist, not wet- rain gardens or areas that naturally remain wet or hold extra moisture are the exception. Water in the morning or the evening. If you cannot do either, water when you can. Some areas of a planting can be drier than others. Test the different areas by digging down a bit to test the moisture of the soil- water accordingly. Pay close attention to plantings under trees, as these areas can be drier than others.
- 2. Weed: keep up on weeding and remove them as soon as possible. Prioritize more aggressive weeds like Quack Grass, Thistle, Bindweed, Dandelions... It is easier on new plantings to utilize an herbicide to tackle stubborn weeds. Weeds create competition and make it more difficult for natives to establish. If you have turf grass butting up to the new bed, keep it mowed and blow clippings away from the bed. Lawns harbor many weedy species, but regular mowing does keep them at bay. Weeding will be an on-going need, but it does become easier as a planting becomes more dense.
- 3. Growth Expectations: It can take up to 3 years for a bed to establish and fill out. The first year may look sparse as plants focus on establishing their roots and getting through the first season. Some plants will not make it for various reasons within or beyond your control. Don't sweat it, just do your best. The second year you will see some top growth and expansion, and this will be a good time to assess which ones are doing well and which ones are struggling. This is a good time to make some adjustments. Watering needs will be much less second year except for any new additions which will need regular watering. The third year is when you will typically see a real expansion and growth. Watering needs will be minimal to almost not needed. Exceptions are if there is extended drought.
- 4. Clean-up and pruning are not a big factor. Pruning need only be done on dead limbs or when trees or shrubs possibly expand to places that cause problems. Young trees and shrubs should otherwise be left to grow. Leaf litter should be left in the beds to build the soil, retain moisture, and prevent weeds- it is a natural process. In urban and suburban environments, leaves can blow and pile up in some areas while other areas look bare. If leaves seem a bit too thick in certain areas, they can be moved around and added to areas that have little coverage. Do not cut back plants in the fall. If a tidier look is wanted, wait until mid-May to cut things back. Many beneficial creatures utilize spent stems as safe harbor in the winter. These creatures in turn are a major food source for birds in the spring. By mid-May, most if not all insects have emerged and no longer require the old stems
- 5. Gardens are dynamic and will change. This is natural and what keeps things interesting. Make sure to take the time and just observe what is happening around the garden. Do not be too hasty, as maintenance work can wait until a solid plan is developed based on said observations.
- 6. Wildlife. Native plantings attract a host of wildlife from insects, amphibians, birds and mammals. Some animals feed destructively on plants, specifically deer, rabbits and groundhogs, and plantings are most vulnerable within the 1st three years. Apart from caging the whole planting or the most vulnerable species, efforts can be made to plant things known to be resistant to these creatures, but even such species can be susceptible and planting only resistant species impacts diversity and selection. Typically when planting densely, enough survive to keep the planting intact. Also remember that these animals are known to eat many other species that are not native as well, so many plant species are vulnerable not just natives. The three year window for establishment is definitely impacted by wildlife. Repellants can be used with varying success. Once established, many species can hold up to animal browsing.
- 7. Public Plantings: These tend to be the hardest to maintain. They usually rely on volunteer labor which can be hit or miss and are not as closely watched as a home landscapes. Wildlife may have easier access to public plantings and vandalism can be a problem too. Public spaces may also lack access to power and water which can present issues for maintenance and upkeep. If deciding upon a public planting, I would strongly consider having a well-conceived maintenance plan.

